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ABSTRACT

Young children were studied in tasks that required them to select one object as "different" from another. Children systematically selected maximally similar objects until about 3 years of age, and thereafter performed correctly. Additional data derived from the children's verbal justifications and refusals to select suggested a 4-stage model in which (1) the youngest children confuse "different" for "same", (2) slightly older children interpret "different" to mean "another", (3) the younger correct responders believe "different" requires a dimension of similarity, and (4) the older are indistinguishable from adults. The model was supported in a longitudinal study related to a need for concrete referents. (Author/DP)

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Investigations of the meaning of "different" in the language of young children[1]

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Abstract

Young children were studied in tasks that required them to select one object "different" from another. Children systematically selected maximally similar objects until about three and a half years and thereafter performed correctly. Additional data derived from the children's verbal justifications and refusals to select suggested a four-stage model in which the youngest children confuse "different" for "same," slightly older children interpret it to mean "another," the younger correct responders believe "different" requires a dimension of similarity, and the older are indistinguishable from adults. The model was supported in a longitudinal study related to a need for concrete referents.

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Investigations of the meaning of "different" in the language of young children[1]

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The present studies were undertaken to explore the apparent reversal of "different" for "same" in the language of three-year-old children (Donaldson & Wales, 1970). Similar reversal phenomena have been noted elsewhere (e. g., Vygotsky, 1962, pp. 71f; Donaldson & Balfour, 1968), but always with antonymic adjectives (e. g., big-small, tall-short, fat-thin). A plausible theory has been proposed by Clark (1970) to account for the adjective confusions, but "same" and "different" constitute linguistically unique problems. Clark's treatment of antonymic adjectives is based upon the concept of lexical marking (Greenberg, 1966; Osgood & Richards, 1973) and assumes that both members of a pair initially refer to the same dimension (e. g., "big", "little" to physical size) and only later are differentially marked for comparative use. "Same" and "different", although (according to Donaldson & Wales) bearing at least superficial similarity to antonymic adjective pairs, do not refer to any particular physical dimension but to an apparently infinite number of possible similarity relations which are generated by the speaker according to the physical or linguistic context.

Donaldson & Wales (hereafter D & W) found that three-and-a-half-year-olds selected similar objects from an array when asked for an object that was "different in some way" from a target object, and their explanation for the phenomenon was based on a further ambiguity of the English language. In addition to an infinite number of similarity relations, "same" and "different" can also refer to identity relations (i. e., that is the same beer can I kicked yesterday). "Different," D & W suggested, might initially refer to a different (i. e. non-identical) example of a similar object. When the child selects a similar object

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in response to a request for a "different" one, he might be saying, here is another member of that class.

The present investigations must be considered observational-descriptive rather than strictly experimental. While a number of variables were altered across the series of studies, variation was undertaken primarily to demonstrate the robustness of the object selection task. Experiment I is a fairly straightforward replication of a portion of D & W's original procedure except that questions are varied. Experiments II and III all involve variations on a task in which the child is asked to select an object "different" from a target and where varying relations of similarity and discrepancy hold between the target and the possible choices. After a descriptive analysis, the cognitive basis of the D & W effect is sought in the child's need for physical referents for his concepts.

Unfortunately, investigations of "same" and "different" produce serious reporting problems. In the report to follow, "same" implies that two objects share all visible dimensions, and "similar" means that two objects share at least one visible dimension. "Same" can refer to the identical object, but where that usage is intended, it is specified. "Different" means that the objects differ on at least one dimension, and obviously two objects can be both "similar" and "different." When a subject is asked to choose a "different" object, his response is considered "correct" if his choice differs on at least one dimension from the target object. Footnote 2 below indicates why calling any particular response "correct" is essentially arbitrary, and, of course, defining similarity and difference in terms of stimulus dimensions in a highly circumscribed array of objects is an over-simplification of the real world situation.

Experiment I

Subjects. Forty-nine children ranging in age from 3-1 (3 years, one month) to 5-7 were studied. Taken from two Baltimore area private pre-schools, the sample

was middle-class and predominantly white. All available children in the schools were studied.

Procedure. After familiarization with the experimenters, each child was introduced to a set of 12 objects: three pink plastic toothbrushes, three yellow plastic cups, three blue plastic combs, and three Sunshine raisin boxes. The child was asked the name and color of the objects and was allowed to play with them. He was encouraged to put the objects into classes and was prompted to call them by a full descriptive name (e. g., "That's a yellow cup "). In testing, the experimenter first removed one object from the set and asked, "Will you pick one for me that is different from this?" After the child's selection, the object was returned to the set and the procedure was repeated four times with other objects and questions. The child was asked for objects that were "same," "like," "not like," and again "different" in that order. On each choice there were two objects similar in all ways to the target object and nine objects completely different. During the session, the experimenter attempted to be supportive, but without giving differential reinforcement for any particular choice the child made. On this, and all subsequent procedures reported below, two independent observers were used for some subjects. The choice data can be recorded with a reliability approaching 100%.

Results. Of the 49 subjects tested in this fashion, 19 were totally correct (i. e., for each response picked a different object when the question was "different " or "not like" and always picked a similar object when the question was "same" or "like") and 16 were perfectly consistent with the D & W pattern of results (i. e., they always picked a similar object regardless of the question). Five other children satisfied the criterion used by D & W and picked a similar object in response to the initial "different" request. These five along with the 16 who show consistent D & W patterns, make a total of 21 D & W subjects in the sample of 49.

To estimate the reliability of the phenomenon, we might consider the probability of missing the second "different" question given that the first was missed. Twenty-one children miss the first "different" question and of these, 17 (or .81) miss the second also. The probability of that outcome assuming the probability of making a second error by chance to be 2/9, is small ($z=6.56$) and would be even smaller if the fact that 16 children also missed "not like" were considered.

Four of the nine subjects who did not show one of the patterns described above made only one error each and should probably be classified with the subjects who were correct on all items. One subject selected a different object as a response to every question.

The remaining four subjects were the most interesting observed. These children were correct when asked for a similar object, but when asked for one that was "different" or "not like", denied the existence of a satisfactory choice. Upon prompting with the questions, "What are you looking for?" or "What would you need to have a different one?" these children volunteered the opinion that they needed a similar but not identical object (e. g., "I need a pink comb," when the target was a blue comb).

Discussion

The outcome of Experiment I can be considered a replication and extension of D & W's results. Although the procedure deviates in several ways from the original D & W procedure, many children were found who consistently selected an object similar on all dimensions to a standard when asked for something that was "different" or "not like"; also, these choices appeared to be independent of the particular terms employed.

Because the choices were only of completely similar or completely different objects, the outcome of Experiment I did not reveal much about the children's understanding of "different." The subjects showing the D & W pattern could

believe , as D & W suggested, that "different" referred to a denial of identity rather than similarity; they could confuse the meaning of "different" for "same"; or they could be confused by the information contained in the problem. The four subjects in the present sample who actually did volunteer information about the semantics of "different" suggested a third formulation. By saying that for two objects to be different they must also have something in common, the children suggested a theory of "different" that required some observable basis of comparison. If a child were holding this theory, things that were different on all dimensions would not be different at all.

Experiment II

Introduction. Since Experiment I demonstrated the replicability of the D & W phenomenon, but did not satisfactorily differentiate between the various explanations for why the children apparently confuse the meaning of "different", further study was designed. In D & W's original study a second set of objects had been used in which no completely similar objects appeared, but shared dimensions of either form or color were present. The present study attempted to combine the two D & W procedures while examining other relationships in a single procedure, and it was decided to concentrate solely on questions involving the term "different." Also, the reasoning underlying the children's choice was examined by explicitly asking for justifications. A younger sample was employed since more D & W subjects would most likely be found.

Subjects. Twenty-nine children ranging in age from 2-9 to 3-11 were studied in two church-operated pre-schools in Baltimore. The sample was predominantly white and middle-class. A few days to a week prior to the individual testing, the experimenters visited and played with the children in the group setting.

Procedure. Each child was presented with an array of eight choice objects (two red plastic squares, one white comb, one blue plastic ring, one yellow and one green pencil, and one yellow and one green plastic spoon) and was questioned with a series of five target objects (one red plastic square, one blue plastic

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comb, one yellow pencil, one green spoon, and one small red raisin box). The sets of choice and target objects were constructed so that each target would have specifically appropriate counterparts in the choice array. Table 1 presents the "same," "similar", and "completely different" choices available for each target.

Insert Table 1 about here

Of 29 subjects, 20 demonstrated a clear D & W pattern and chose one of the red squares to the red square target, either the white comb or blue ring to the blue comb, the yellow pencil to the yellow pencil and the green spoon to the green spoon. Nine subjects were correct and chose an object that differed on at least one dimension for each choice. Thus, all 29 subjects fell into a dichotomous classification in which all responses of all subjects were consistent with one of two principles.

It is extremely unlikely that these patterns could have emerged by chance. On each trial, the probability that a maximally similar object would be selected by chance is either 1/8 or 2/8. Ignoring the fifth trial in which the raisin box was used, the probability of selecting four similar objects in a row is .001. The probability of a single subject selecting four different objects in a row is greater ($p = .57$), but the probability that all nine subjects selecting one different object would select four in a row is small.

In addition to the highly reliable judgments of the subjects' records, four of the youngest correct subjects and five of the oldest D & W subjects were retested one week after the initial session. Of the four correct subjects, three were again completely correct, and one child made one similar choice. The five D & W subjects repeated the exact pattern obtained earlier. These findings suggested that there was considerable test-retest reliability to the procedure, despite the fact that subjects who were most likely to reverse were intentionally selected for retesting.

It should be noted that among the correct children, a pattern of choosing similar objects when they were available emerged. There were three targets (blue comb, yellow pencil, green spoon) for which a correct choice could be either an object similar on one dimension or one completely different. Of the nine correct subjects, only two consistently chose a totally different object. Four subjects always picked a similar object and three more selected a similar item on two out of the three possible choices.[2] Thus the results for seven subjects out of nine were consistent with the interpretation of "different" suggested by the four subjects in Experiment I, but none of the subjects went so far as to deny as appropriate choice. The only group of children in Experiment II who refused to respond to an item were eight D & W children who failed to respond to the raisin box.

Another notable result of Experiment II occurred in the justifications. For the D & W subjects, the blue comb target forced the choice of an object that differed on one dimension. When asked to justify their choices, eight of the 20 did so correctly (on the basis of <u>difference</u>) by saying something to the effect that "one is blue and one is white." On the other items where there was no basic difference between target and choice, these children either referred to similarity or refused to justify their choice. The correct subjects generally referred to the dimension of difference in their justifications.

Discussion

The results of Experiment II replicate and extend the pattern seen in Experiment I, but raise further questions about interpretation. In the present version of the D & W selection task, subjects were completely reliable in using one of two principles as a basis of selection. Independent of the similarity relations which held between the target object and the set of possible choices, most subjects (.69) chose the maximally similar object when asked for the one

that was different (D & W phenomenon). The remaining subjects correctly chose an object that was actually different in some way. In both groups, the particular principle employed accounted for all responses of each of the subjects. Such clear differentiation and consistent responding, particularly among such young children, was very surprising. The facts strongly suggested, however, that the choice behavior is generated by rules that are actually related to notions of similarity and difference and not some basis unrelated to the experimenter's intent. (See Webb, Oliveri, and Rose, 1973, for a discussion of the latter possibility).

Experiment III

Both the behaviors observed in Experiments I and II and a number of incidental observations suggested a sequence of stages in the development of the meaning of "different" that might account for all the data from the various procedures. Four stages that might be sequentially related are:

1) "different" is synonymous with "same"
2) "different" means another member of a similar class (denial of identity explanation)
3) "different" means different with some basis of similarity
4) "different" means different with reference to both similarity and identity relations

It should be noted that if the model outlined here is correct the semantics of "different" are changing through four stages, while the overt choice behavior in the D & W procedure goes through only two. Children in stages 1 and 2 would consistently select the maximally similar object, and in stages 3 and 4, different objects.

Experiment III was designed to see if the model suggested above for the development of the meaning of "different" would be supported in a longitudinal study. With the cross-sectional data available from the previous studies, it is possible that the findings that are most suggestive of a number of stages were

generated by children displaying alternative patterns of semantic growth.

Experiments I and II suggested a rather specific time for the change between the two major stages (about 3-6 or 3-7) and that successive testing must be close together if more than two stages were to be seen. Doing this with identical procedures, however, might produce a carry-over from one testing to the next which could confound the results. These considerations and the fact that earlier studies had suggested that the basic D & W phenomenon was highly reliable led to the decision to change test materials and vary procedures between testings. This might lead to greater problems of reliability, but should add considerably to the generality of the results.

Method

Subjects. Twenty-four children enrolled in a local church-operated nursery school served as subjects. The children ranged in age from 3-0 to 3-11 at the time of the first testing. The sample was white and middle-class, and none of the children had been employed in earlier studies.

Procedure. Subjects were tested three times over the school year at intervals of approximately two months. All testing sessions included a version of the D & W procedure similar to that used in Experiment II. For each target object, the child was instructed to select from the choice array something "different." After most selections, the child was asked to justify his choice by answering the question, "How are these different?" The specific tests employed are described below for the three testing sessions, and the similarity and discrepancy relations implicit in the target and choice sets were similar to those shown in Table 1 above. In all sessions of Experiment III targets were used in varying order.

Session 1. The choice set consisted of one red square, green spoon, yellow spoon, white comb, and blue ring. The targets consisted of a blue comb, red square and green spoon. There were no targets for which there was no similar choice object available.

Session II. Two sets of objects were employed. One set consisted of the same objects used in Session I and the second of geometric shapes (targets: green circle, white triangle, red circle, blue square).

Two procedures were also used. One was a simple replication of the procedure used in Session I, although children were also questioned with novel target objects which shared no dimension of similarity with any choice objects. A second procedure was designed following the suggestions of Clark (1970). The Clark procedure was designed to test the "denial of identity" explanation of the choice behavior. In this procedure the targets and choice objects were placed together in one collection, a target object removed from the set, the "different" question asked, and the target immediately replaced in the set. Clark hypothesized that if the child interpreted "different" to mean another member of the same class of objects, he should never choose the target object. The sets of objects and the order in which the procedures were used were both counter balanced.

Session III. In Session III an extended D & W procedure with all new objects was employed. Targets consisted of a small blue can, large blue car, black plastic horse, white plastic horse, red spoon and yellow plastic banana. As in previous work the D & W procedures generated very consistent data. When a subject is classified as "D & W", it indicates that <u>all</u> of his responses were of the most similar object available, and all choices of "correct" subjects differ on at least one dimension. As in earlier procedures, the "chance" models of the behavior vary according to the specific array employed. The probability of generating a D & W sequence of choices by chance range from $p = .025$ in the Session I and II procedures to $p < .002$ in Session III.

Results

Session I: The data from the D & W procedure in Session I constituted an essential replication of earlier work with the procedure. Of the 24 children tested, 12 subjects always chose the most similar object available on all their choices (the D & W pattern) and six chose an object with a visible dimension of difference on all their choices (correct).

The responses of the six subjects who were not completely consistent with either the D & W or correct patterns were far from random. The youngest subject in the sample (3-0) selected the same object on each trial. Of the remaining five subjects, three chose the red square to the red square target, the white comb to the blue comb, and the yellow spoon to the green spoon (a green spoon was also available) and the other two subjects chose the blue ring to the red square, the white comb to the blue comb, and the green spoon to the green spoon. The consistency of these patterns implied that these subjects were responding on some systematic basis which was closely related to the D & W phenomenon. For subsequent analyses these five subjects plus the one who selected the same object for each choice have been classified as "mixed."

Session II: The D & W procedure on the second testing, which was approximately two months after the first, demonstrated changes in the frequency of the various categories that would be expected if the D & W phenomenon were a valid developmental sequence.

Table 2 presents the frequencies of outcomes on the first testing against the second testing for the 20 subjects who were tested on both procedures. The three oldest correct subjects were not retested because they understood the tasks thoroughly and were rather annoyed by them. One previous D & W subject

was not available due to illness. On the assumption that the mixed category was an intermediate developmental stage, and not simply an error, the mixed classification was retained in Table 2. The data clearly supported this assumption since there were changes from D & W to mixed and from D & W to correct and from mixed to correct, but no changes in the reverse direction.

Insert Table 2 about here

Because of the different types of materials and the two procedures used in Session II, the exact patterns of choices of the six mixed subjects will not be described. Each, however, chose some combination of completely similar objects and different objects with some dimension of similarity, and not randomly selected objects.

The central focus of Session II was an attempt to conduct the experiment proposed by Clark (1970) that consisted of returning the target object to the choice array. Children who believed that "different" meant a denial of identity (that is, another object of the same type) should always select a similar object, but not the target object itself. By and large this interpretation was supported, but the results were much less consistent than those found with other D & W procedures. Of seven subjects in Session II who consistently selected similar objects on both the standard D & W procedure and the Clark procedure, the five oldest chose another similar object and not the target for each trial of the Clark procedure. The youngest subject of the seven selected the target on each choice, and the second youngest selected the target twice. The choices of the six mixed subjects were almost equally divided between correct and D & W responses on the Clark procedure and the D & W choices were divided between choices of the target and another similar object--though the majority were of the other object. Thus, it appears that the older D & W and

mixed subjects were consistent with D & W's denial of identity explanation of the phenomenon, although the youngest were not. The two youngest subjects in the sample performed on the Clark procedure as if they thought that "different" literally meant "same" (or "identical").

Each subject in Session II was also questioned on the D & W procedure with one target item for which there was no similar choice object. All seven D & W and four of six mixed subjects refused to choose under these conditions.

Session III: D & W data from the third testing session gave additional evidence of orderly developmental change. Of 15 subjects tested in all three sessions, seven still showed the D & W pattern. The single reversal (from mixed to D & W) occurred with the youngest child in the sample who had been originally classified as mixed because of choosing the same object on each trial. Three subjects who were mixed on the third testing had been mixed on the second. Of the four correct subjects on the third session three had been correct on the earlier session and one mixed. Again, with the exception of the single deviant subject, all movement was in the direction that would be anticipated if the three categories constitute developmental stages.

One surprising aspect of Session III was that seven subjects still showed the D & W pattern even though most were then at least 3-6 in age, and this could be a carry over effect from previous testing. Even if this were true, however, it would not appear to confound the interpretation of the results, since the analysis was based on the subjects who did change in their responding.

In Session III, the presence of two test items for which there were no similar choices provided an extra opportunity to estimate the stability of the refusals to choose seen in Session II and Experiment II.
Of the seven D & W subjects in Session III, all seven refused to make a choice to either of the targets. Two subjects began to pick up an object and stopped, saying, "They're not the same," or "There's nothing like this." The three mixed subjects in Session III were varied in their responses. Two mixed subjects refused

to select to the ball target, but did select to the green block. The other mixed subject selected on both items. None of the correct subjects refused to select on any items.

Justifications. In Experiment II, a small number of subjects (eight of 20) had been found who gave consistent D & W responses, but who justified a forced different choice by referring to the dimension of difference between target and choice. In the present study, the justification phenomenon was readily replicated and additional information was collected concerning the relation of the phenomenon to the children's choice behavior.

A critical item for the justification question in Session I was the blue comb target. On this item, a white comb and a blue ring were available as similar choices, but no identical object was present. In that session, all 12 D & W subjects chose the white comb to the blue comb target. The question posed to the child was: "How are these different?" Responses to this question for the blue comb item were examined in terms of the age of the subject and his classification on the D & W task (D & W, mixed, correct). Choices on this item could be justified on the basis of difference ("blue, white," "That one is blue, that one is white," "They're different colors") or by reference to similarity ("both combs, both comb hair").

Table 3 gives the justification for the blue comb item for all 24 subjects in Session 1 classified by age and response pattern. Codes for the justifications are as follows: S = similarity ("both combs"); D = difference ("one's blue, one is white"); and O = omission (no intelligible answer). All subjects 3-2 and below justified the blue comb item with reference to similarity. Of the subjects 3-3 and above who gave intelligible justifications, most of these referred to difference, and those who referred to similarity are both D & W subjects. No mixed or correct subjects above 3-3 referred to similarity in their justifications.

Insert Table 3 about here

Discussion

The data from the present studies complete a consistent picture of young children's understanding of the term "different" in an object selection task. Data from both the choice behavior and the justifications in the D & W procedure, and from the choice behavior on the Clark procedure support the four stage model for the meaning of "different" proposed in the introduction to Experiment III. Briefly, there is the strong suggestion that children 3-2 and younger confuse the meaning of "different" for "same," that for children roughly 3-3 to 3-6 "different" refers to another object of a similar type, that children 3-6 or 3-7 and above believe that "different" means different with a dimension of similarity, and finally that children slightly older arrive at a meaning indistinguishable from that of adults within the limits of the present methods.

The youngest children tested in the various D & W procedures in these studies seemed content to select similar objects to requests for "different" ones and either refused to justify their choices or did so on the basis of similarity. The data suggested that the first change occurred at approximately 3-3 with the justifications constituting the most compelling evidence. In addition to the data in Table 3, the eight D & W subjects in Experiment II who used correct justifications were 3-3 or older.

The data from the experiment proposed by Clark (Experiment III, session II) also is relevant at this point. If the proposed stage structure is correct, older (stage II) D & W subjects should select objects similar to the target, but never the target itself, and this was confirmed. The two youngest subjects both deviated from the pattern shown by the stage II D & W subjects.

The most obvious stage change in the D & W data occurs at about 3-6 to 3-7. At this point children begin to choose objects that differ on at least one dimension from the target. The consistent choice of similar objects when they are available and refusals to select when totally different objects were available suggested, however, that the youngest correct subjects still hold a theory of "different" that deviates in several ways from that held by older children. An incidental finding supporting this conclusion is that of six subjects who were correct on either the first or second session and were retested and were still correct in the following session, four showed a decrease in the number of similar, but different, objects selected on the trials where such a choice was available and the other two did not pick similar objects on either testing. Thus, while based upon a small number of subjects, the data are consistent with the notion that when they first correctly begin selecting different objects, the children try to find choices that have some basis of similarity with the target.

What is not revealed by the present method of study is what meaning the older subjects attribute to the term "different." The paragraphs above strongly suggest that when children first start choosing correctly in the D & W task, they still hold a theory of "different" that is not equivalent to that held by older children. There were no data to be derived from the D & W task, however, that tell how the oldest children in this study differ from still older children or adults.

In the opinion of the present writers, the most likely explanation of the observed behavior is that the phenomena represent a gradual freeing of children from a semantic system requiring physical referents and is most consistent with the work of Vygotsky (1962) on the learning of scientific concepts. Vygotsky's work on the acquisition of concepts has been the object of criticism precisely

because of its referential components (see Fodor, 1972, where Vygotsky's views are termed "hopeless"), and Katz (1973) presents the argument against referential theories of meaning with admirable clarity. There is a distinction, however, between a system of meaning based on referents (either objects or mental images) and a system which requires objective representations of its concepts. The latter is apparently the system employed by the three-year-old who has acquired some idea of what certain terms imply (e. g., "same" and "different" have something to do with similarity; "tall" has something to do with size), but can only understand the terms in relation to particular objects. "Same" and "different" are good examples of terms that would be meaningless in a referential theory (see Katz, 1973, p. 37), but the present work strongly suggests that their use by three-year-olds is highly dependent on particular referents. The older D & W subjects (Stage II) are probably led to their "another" interpretation of 'different" because that interpretation maximally specifies the basis of the choice. Believing that "different" refers to the negation of identity reduces the ambiguity of the otherwise abstract question. The most striking confirmation of that analysis is the behavior of children in this next stage. The stage III child has apparently learned that "different" refers to the negative aspect of the similarity relation, but is constrained by the need for a dimension of similarity as a referent. The refusal to choose shown by so many stage II and stage III children suggest that the term "different" is undefined without a basis of comparison. The present work suggests that the three-year-old may be a Vygotskian, and that by the time he is four has moved closer to the system advocated by Katz or Fodor.

Table 1. Design of "same", "similar," and "completely different" counterparts in the choice array for each target object.

TARGETS	POSSIBLE CHOICES		
	SAME	SIMILAR	COMPLETELY DIFFERENT
red square	2 red squares	-	remaining 6 objects
blue comb	-	white comb blue ring	remaining 6 objects
yellow pencil	yellow pencil	yellow spoon green pencil	remaining 5 objects
green spoon	green spoon	yellow spoon green pencil	remaining 5 objects
raisin box	-	-	all 8 objects

Table 2

Outcome on Session I against outcome on Session II for the D & W procedures

		Outcome on Session I			
		D & W	Mixed	Correct	Totals
Outcome on Session II	D & W	7			7
	Mixed	2	4		6
	Correct	2	2	3	7
	Totals	11	6	3	20

Table 3

Distribution and Justifications on Blue Comb Item as a Function of Age and D & W Category (Session I)

	Category		
Age	D & W	Mixed	Correct
3-0		S	
3-1	S, S		
3-2	S	S	
3-3	D,D,D,S		
3-4	D		
3-5		D	
3-6	O		
3-7	S		D
3-8	O		D
3-9	D	D	D, O
3-10		D	D
3-11			D

Codes: S=similarity; D=difference; O=omission

Footnotes

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[2] In a replication of Experiment II with 18 Johns Hopkins students, David Kaplan found that 10 subjects consistently chose a maximally different object. One student chose similar objects (the D & W effect) and justified his choice by saying that it was a different (i. e., another) red square or whatever. The remaining seven subjects were not consistent but tended to choose objects with a dimension of similarity with the target. The moral of the replication with adult subjects is that any choice to the request "different" can be logically justified.

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